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CLINICAL OUTCOMES AFTER TRANSCATHETER AORTIC VALVE REPLACEMENT (TAVR) USING VALVE ACADEMIC RESEARCH CONSORTIUM (VARC) DEFINITIONS: A WEIGHTED META-ANALYSIS OF 3,519 PATIENTS FROM 17 STUDIES

i2 Poster Contributions
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Backgrounds: Recently, the published Valve Academic Research Consortium (VARC) definitions have helped to add uniformity for reporting outcomes after Transcatheter Aortic Valve Replacement (TAVR). We sought to perform a weighted meta-analysis to determine rates of major outcomes after TAVR using VARC definitions and to evaluate their current use in the literature.

Methods: A comprehensive search of multiple electronic databases from January 1st 2011 through October 12th 2011 was conducted using predefined criteria. We included studies reporting at least one outcome using VARC definitions.

Results: A total of 17 studies including 3,519 patients met inclusion criteria and were included in the analysis. The pooled estimate rate of outcomes were determined according to VARC's definitions: device success: 92.1%, 95%CI [88.7,95.5]; all cause 30-day mortality: 7.8%, 95%CI [5.5,11.1]; myocardial infarction: 1.1%, 95% CI [0.2,2.0]; acute kidney injury stage II-III: 7.5%, 95%CI [5.1,11.4]; life threatening bleeding: 15.6%, 95% CI [11.7,20.7]; major vascular complication: 11.9%, 95% CI [8.6,16.4]; major stroke 3.2%, 95%CI [2.1,4.8]; and new permanent pace maker (PPM) implantation: 13.9%, 95% CI [10.6,18.9]. Medtronic CorevalveTM prosthesis use was associated with a significant higher rate of PPM implantation compared to the Edwards's prosthesis (28.9%, 95% CI [23.0,36.0] vs. 4.9%, 95% CI [3.9,6.2], p value < 0.0001). The 30-day safety composite endpoint rate was 32.7%, 95%CI [27.5,38.8] and the 1-year total mortality was 22.1%, 95% CI [17.9,26.9].

Conclusion: VARC definitions have already been used by the TAVR clinical research community, establishing a new standard for reporting clinical outcomes. Future revisions of the VARC definitions are needed based upon evolving TAVR clinical experiences.